MATERIAL SAFETY DATA SHEET

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SECTION 1 NAME & PRODUCT

Material name:
1,1,1-Trichloroethane (Methyl chloroform)

Formula of primary component(s):
Cl_3C-CH_3, CAS 71-55-6

SECTION 2 INGREDIENTS

	%	TLV (ACGIH)
1,1,1-Trichloroethane (Stabilized)	100	350 ppm

Not specification values. gt = greater than, lt = less than, ca = approximately

SECTION 3 PHYSICAL DATA

Boiling point: 165.4°F
Vapor pressure (mmHg at 20°C): 120
Vapor density (air = 1): 4.54
Solubility in water: Negligible
Specific gravity: 1.31
% Volatile by volume: 100
Appearance and odor: Clear, colorless liquid, ether-like odor

SECTION 4 FIRE AND EXPLOSION HAZARD DATA

Flash point (and method):
None (by standard lab procedures)

Flammable limits (STP):
LEL: 7%, UEL: 15%

Extinguishing media:
Water fog, foam, carbon dioxide, dry chemical, Halon 1211.

Special fire fighting protective equipment:
Self-contained breathing apparatus to protect against exposure to decomposition products.

Unusual fire and explosion hazards:
In a confined or poorly ventilated area, 1,1,1-trichloroethane can be ignited with a spark, flame or high-intensity source of heat. This can occur at concentrations of about 7-15% of volume.

SECTION 5 REACTIVITY DATA

Stability:
Normally stable. Avoid contact with aluminum equipment having confined spaces, such as pump housings, especially when diluted with other solvents or when the stabilizers are lost through reclamation. Aluminum-catalized decomposition gases can rupture the equipment with explosive force. May decompose under certain conditions when blended with other organic materials such as toluene.

Incompatibility (materials to avoid):
Avoid mixing with caustic soda, caustic potash, or oxidizing materials. Strong oxidizers may form explosive mixtures in confined areas.

SECTION 5 REACTIVITY DATA (continued)

Hazardous decomposition products:
Thermal decomposition - hydrogen chloride and traces of phosgene.
Chemical decomposition - hydrogen chloride.

Hazardous polymerization:
Will not occur.

SECTION 6 HEALTH HAZARD ASSESSMENT

Oral ingestion:
Rat acute oral LD_{50} is in the range of 10-12 g/kg. This compound is not significantly toxic if swallowed.

Eye contact:
Eye contact in man can cause pain and transient irritation.

Skin contact:
Prolonged or repeated contact with human skin can cause irritation and dermatitis.

Skin absorption:
Skin absorption of liquid can occur. Rabbit dermal LD_{50} is above 15 g/kg.

Inhalation:
Concentrations in excess of 15,000 ppm are fatal to animals. Human fatalities have occurred due to anesthetic and cardiac sensitization; however, if victims survive exposure, recovery is rapid and complete.

Effects of overexposure:
Initial central nervous system depression, anesthesia and possible death at 20,000 ppm in air. Irritation of the respiratory tract, dizziness, nausea, and light headedness, headache, loss of coordination and equilibrium, death can occur in confined or poorly ventilated areas. Circulatory depression has been reported. High levels of 1,1,1-Trichloroethane can sensitize the heart to epinephrine.

First aid procedures:
Eyes: Immediately flush with water for at least 15 minutes and call a physician.
Skin: Wash off material with soap and water. If redness, itching or burning sensation develops, get medical attention. Remove contaminated shoes and clothing. Wash clothing and decontaminate shoes before reuse.
Inhalation: Remove to fresh air. If not breathing, give artificial respiration. Call a physician.
Ingestion: DO NOT induce vomiting. If conscious, give one or two glasses of water to drink and get medical attention. If unconscious, do not give anything by mouth, but get immediate medical attention.
Note to Physician: Avoid use of epinephrine. Product can sensitize the heart to epinephrine with subsequent cardiac arrhythmias.

SECTION 7 SPILL OR LEAK PROCEDURES

Steps to be taken in case material is released or spilled:
Ventilate spill area. Wear eye, skin, and respiratory protection during cleanup. Dike area to contain large spill. Recover liquid or soak up with an absorbent. Shovel absorbent mixture into waste container, cover and remove from work area.

SECTION 7 SPILL OR LEAK PROCEDURES (continued)

Disposal method:

This material is identified as a toxic waste, No. U226, under RCRA 40 CFR 261.33. Incinerate or landfill in permitted hazardous waste facility.

Container Disposal: Recycle through an approved reconditioner or puncture or crush container and landfill in a permitted facility for hazardous waste.

SECTION 8 SPECIAL PROTECTION INFORMATION

TLV or suggested control figure:

TLV - 350 ppm.

Ventilation:

Use local exhaust to maintain vapor concentration in work area below TLV.

Respiratory protection (specify type):

Not normally needed if local exhaust satisfactory. If needed, use MSHA-NIOSH approved respirator for organic vapors.

Protective clothing:

Impervious gloves (polyethylene, neoprene, polyvinyl alcohol).

Eye protection:

Chemical workers goggles.

Other protective equipment:

Eye wash station and safety shower near work area.

SECTION 9 SPECIAL PRECAUTIONS OR OTHER COMMENTS

Precautions to be taken in handling or storing:

Store in cool, well-ventilated area (heavy vapors will collect in low spaces). Keep containers tightly closed. Monitor storage and handling areas to avoid leaks or spills which can contaminate water supplies.

Sludge containing finely divided aluminum residues should be stored out-of-doors, away from combustible materials. Do not store degreaser clean-out sludge in tightly sealed containers.